

ABSTRACT OF THE DISCLOSURE

A start signal (STA) at "H" causes a current to flow through a constant-current portion (10) and control voltages to be produced at nodes (N1, N2) for biasing of a reference voltage portion (20) and an output portion (30), respectively. This allows a predetermined current to flow through the reference voltage portion (20), and a reference voltage (VRF) to be output at a node (N4). With the start signal (STA) at "L", only a constant-voltage device (22) provides a reference voltage (VRF1), whereas the start signal (STA) at "H" causes the constant-voltage devices (22,23) to be connected in parallel to provide a reference voltage (VRF2). The reference voltage (VRF) is amplified at an output portion having a differential amplifier arranged in the voltage follower connection to output an internal voltage (VOUT) corresponding to the reference voltage (VRF).